

ENTITLED DEPENDENT CLAIM
FOR CALCULATION SHEET
(FOR USE WITH FORM PCT/875)

10599851
APPLIED 08/03/85

CLAIMS

	AS FILED		AFTER CANCELLATION		AFTER AMENDMENT	
	IND.	DEP.	IND.	DEP.	IND.	DEP.
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TOTAL IND.			4	3		
TOTAL DEP.			39	36		
TOTAL CLAIMS						

	AS FILED		AFTER CANCELLATION		AFTER AMENDMENT	
	IND.	DEP.	IND.	DEP.	IND.	DEP.
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TOTAL IND.						
TOTAL DEP.						
TOTAL CLAIMS						

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/18335

A. CLASSIFICATION OF SUBJECT MATTER
IPC: C12P 1/00(2006.01)

USPC: 435/41
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 435/41

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WEST, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WU et al. Functional RT and IN incorporated into HIV-1 particles The EMBO Journal 1997, Vol 16. No. 16, pages 5113-5122, especially page 5114 and 5115.	1, 34-36
X	SHEHU-XHILAGA et al. The conformation of the mature dimeric human immunodeficiency virus type 1 RNA genome requires packaging of Pol protein. Journal of Virology 2002, Vol 76. No. 9, pages 4331-4340, especially page 4332.	1, 34-36
A	PADOW et al. Replication of Chimeric Human Immunodeficiency Virus Type 1 Containing HIV-2 integrase. Journal of Virology, October 2003 Vol 77. No. 20, pages 11050-11059.	1, 30, 31, 34-36

<input type="checkbox"/>	Further documents are listed in the continuation of Box C.	<input type="checkbox"/>	See patent family annex.
•	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 26 April 2007 (26.04.2007)	Date of mailing of the international search report 16 MAY 2007
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Louise Humphrey, Ph.D. Telephone No. 571-272-1600

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/18335

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of any additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1,30,31 and 34-36

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US05/18335

BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claims 1, 30, 31, and 34-36, drawn to the technical feature of a cell comprising a vector comprising vpr-p51/66 and an expression cassette comprising LTR-vpr-p51-IRES-p66.

Group II, claims 2-17 and 32, drawn to the technical feature of a method of screening for a compound that inhibits viral reverse transcriptase or affects dimerization of the p66 and a p51 subunit polypeptide of HIV reverse transcriptase.

Group III, claim 18, drawn to the technical feature of a method of making a pharmaceutical composition.

Group IV, claims 19-23, drawn to the technical feature of a method of inhibiting viral reverse transcriptase, inhibiting or enhancing dimerization of the p51 and a p66 subunit polypeptide of HIV-1 reverse transcriptase.

Group V, claims 24 and 27-29, drawn to the technical feature of a compound that inhibits viral reverse transcriptase.

Group VI, claim 25, drawn to the technical feature of a compound that enhances dimerization of the two subunits of HIV-1 reverse transcriptase, p51 and p66.

Group VII, claim 26, drawn to the technical feature of a compound that inhibits dimerization of the two subunits of HIV-1 reverse transcriptase, p51 and p66.

Group VIII, claim 33, drawn to the technical feature of a transgenic animal expressing vpr-p51/66.

The inventions listed as Groups I-VIII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

As set forth above, each Group requires a technical feature that is not required by any of the other groups.

According to PCT Rule 13.2, unity of invention exists only when the shared same or corresponding special technical feature is a contribution over the prior art.

The technical feature of Group I is a cell containing a vector vpr-p51/66, which is shown by Wu *et al.* (The EMBO journal. 1997, Vol. 16 (16), pp. 5113-5122) to lack novelty as this reference teaches the expression vector of Vpr-RT fusion protein, vpr-p51/p66 (Figure 1B), ligated in-frame and placed under control of LTR and RRE, and 293T cells transfected with the vector (Materials and Methods), thus does not make a contribution over the prior art.